

CLAIMS

1. An animal breeding material or article comprising a basic amino acid cellulose partial ester or a salt thereof as the effective constituting component.

2. The animal breeding material or article of Claim 1, wherein said basic amino acid cellulose partial ester or a salt thereof is in a form selected from the group consisting of fabric, non-woven fabric, fiber and powder.

3. The animal breeding material or article of Claim 1, wherein said basic amino acid cellulose partial ester has a chemical structure wherein the carboxyl group of a basic amino acid and the hydroxyl group(s) of cellulose are subjected to dehydration to form a covalent ester bond.

4. The animal breeding material or article of Claim 1, wherein the basic amino acid cellulose partial ester has a basic amino acid moiety selected from the group consisting of lysine, arginine, ornithine, and histidine.

5. The animal breeding material or article of Claim 4, wherein the basic amino acid cellulose partial ester is selected from the group consisting of a lysine cellulose partial ester, an arginine cellulose partial ester, an ornithine cellulose partial ester and a histidine cellulose partial ester.

6. The animal breeding material or article of Claim 1, wherein the basic amino acid cellulose partial ester has a degree of substitution for esterification ranging from 0.00001 to less than 3.

7. The animal breeding material or article of Claim 1, wherein the basic amino acid cellulose partial ester is in a salt form.

8. The animal breeding material or article of Claim 7, wherein the salt of the salt form of the basic amino acid cellulose partial ester is an organic acid salt selected from the

group consisting of an acetate, a lactate, a malate, a tartrate, a succinate, a citrate, a benzoate, and a pyrrolidonecarboxylate.

9. The animal breeding material or article of Claim 7, wherein the salt of the salt form of the basic amino acid cellulose partial ester is an inorganic acid salt selected from the group consisting of a hydrochloride, a sulfate, and a phosphate.

10. The animal breeding material or article of Claim 7, wherein the salt of the salt form of the basic amino acid cellulose partial ester is a Lewis acid salt.

11. The animal breeding material or article of Claim 10, wherein the Lewis acid salt is zinc chloride.

12. In a method of breeding animals where the improvement comprises employing an animal breeding material or article of Claim 1 as an antibacterial deodorizing agent for animals selected from the group consisting of an excrement disposing agent for animals, an underlay for animals, an antibacterial deodorant sheet and an antibacterial deodorant pad.

13. A method of making an animal breeding material or article comprising:

a) dissolving a basic amino acid ester, or a salt thereof, in water or an alcohol, or a mixture thereof to form a treating solution;

b) immersing cellulose in said treating solution;

c) drying the product of (b);

d) thermally processing the dried product at a temperature ranging from 100 to 200°C for a time ranging from 10 seconds to 100 minutes;

e) recovering a basic amino acid cellulose partial ester.

14. The method of Claim 13, wherein said basic amino acid ester is a lower alkyl ester having 1 to 6 carbon atoms.

15. The method of Claim 13, wherein said basic amino acid ester is in a salt form.

16. The method of Claim 13, wherein said thermal processing is at a temperature ranging from 120 to 180°C.

17. The method of Claim 13, wherein said thermal processing is for a time ranging from 1 to 60 minutes.

5 18. The method of Claim 13, wherein said recovering a basic amino acid cellulose partial ester comprises:

 i) removing any unreacted basic amino acid ester by washing; and

 ii) drying the remaining basic amino acid cellulose partial ester.

10 19. The method of Claim 18, wherein said washing comprises first washing with water, then washing with an aqueous solution of an organic acid, and finally washing with water.